

REMARKS

The present response is submitted in response to the Office Action of August 10, 2005 and within two months of the filing date thereof. The Applicant respectfully requests that the Examiner enter the submitted amendments and discussions before reconsideration of the present Application and the allowance of the Application and claims as amended herein, or an Advisory Action if the Examiner deems such to be necessary.

Turning now to the present Official Action, the Examiner found and states that claim 15 would be allowable if amended to overcome the rejection under 35 U.S.C. § 112 and if rewritten in independent form including all limitations of the base claim and any intervening claims. In response, claim 15 is amended to be in independent form, including all of the limitations of the base claim and any intervening claim(s) and to overcome the rejection under 35 U.S.C. § 112. It is, therefore, the Applicant's belief that claim 15 is now in condition for allowance and accordingly allowance of claim 15 is now requested.

Next, the Examiner objects to the specification for an informality on page 3, line 1, wherein "gear" is misspelled as "gar". In response, the specification is amended, on page 3, line 1, by correcting "gar" to "gear", and the Applicant respectfully requests that the Examiner reconsider and withdraw this objection to the specification.

The Examiner also objects to the drawings as not showing every feature of the invention specified in the claims, referring particularly to the limitations recited in claims 12-16, and rejects claims 12-16, under 35 U.S.C. § 112, second paragraph, as failing to comply with the enabling requirement. The Applicant assumes that the objection to the drawings and the rejection of claims 12-16 are based upon the same grounds of rejection, which have been expressed only in general terms, thus necessitating a relatively broad response.

In response, therefore, the Applicant first amends the drawings by the addition of Fig. 3 which shows all steps of the method of the present invention as described in the specification and as recited in claims 12-16. As will be discussed in the following, all elements shown in new Fig. 3 are fully supported by the specification, the claims and/or the drawings of the present application as originally filed, so that no new matter is added to the present application. The amendment of the drawings, by the addition of new Fig. 3, is thereby submitted only to

make more explicit what is disclosed in the specification as originally filed and no new matter is added to the present application by the addition of Fig. 3.

Now considering in detail the support for the claims and for new Fig. 3 as found in the specification and the drawings as originally filed, it is described in the specification, such as at paragraphs [015] through [019] and [029] through [035], and at other places therein, that the system and method of the present invention determines when the output speed reaches a predetermined shifting speed at which a "kick-down" shift is to be initiated and determines the output speed gradient ($ng-ab$) at that point in time. The system and method of the present invention then determines a corresponding speed offset ($nd-abkd$) that is a function of the output speed gradient ($ng-ab$) and that represents an adjustment that must be made in the upshift point speed so that the upshift occurs at the maximum desired engine speed, thereby avoiding over-speeding of the engine while providing maximum efficiency. The specification describes that this adjustment of the upshift point speed by the speed offset ($nd-abkd$) may be performed in a number of alternative ways.

In a first implementation of the present invention, described starting at paragraphs [016] and [028], one or more characteristics curves relating output speed and gear state to "kick-down" shifting speed are stored in the system and identify the various predetermined "kick-down" shifting speeds for various output speeds and transmission gear ratios. These characteristics curves do not contain, include or represent an adaptation for variations in output speed gradient, but simply identify the predetermined "kick-down" shifting speed or speeds for a given gear ratio. During operation of the system, therefore, the system determines the current gear ratio and the current output speed and reads from the stored curves the speed at which a "kick-down" shift should occur should the output engine speed reach that "kick-down" speed. The system then determines the output speed gradient as the output speed reaches or approaches that "kick-down" speed, and determines the speed offset ($nd-abkd$) that must be applied to the "kick-down" speed read from the stored curves to determine the actual "kick-down" speed for the shift to occur given the current speed gradient.

In a second implementation of the present invention, which is described at, for example, paragraphs [032] through [035], the upshift point speeds are described as being implemented as "absolute" curves wherein the upshift point speeds may be read directly from curves as a

function of the current output speed and output speed gradient, rather than being calculated from the base curves described just above and a separately calculated speed offset (nd-abkd). This implementation obviously requires that all of the calculations of upshift point speeds for the possible combinations of output speed, gear ratio and speed gradient be performed beforehand.

In this usage of the term "absolute", it is thereby intended to refer to the fact that the set of curves includes all considered variations in output speed, gear ratio and speed gradient, so that the "adjusted" "kick-down speeds" can be read directly from the set of curves and without any other calculations or processing while the system is in operation. It will be apparent that the resulting set of "absolute" curves would obviously be significantly larger than the above described set of "base" curves of the first implementation, but that they could be stored in the system so that the upshift points could be determined directly and without calculation when the curves were indexed by current gear ratio, current output speed and current output speed gradient.

It is the belief and position of the Applicant that the implementation of the generation and use of "absolute" upshift point curves would be readily apparent to one of ordinary skill in the art given the description of the operation of the invention and of the two implementations of the engine speed upshift curves. It is the belief and position of the Applicant that the choice of and implementation of such curves, representing either a set of base curves to be adjusted by another factor or a set of absolute curves incorporating the adjustments, would be well understood by those of ordinary skill in the art as such matters are well known and understood in the arts.

In further regard with respect to the term "absolute", it must also be recognized that the term "absolute" is also used in the present Application, as discussed next below, as a mathematical term which is commonly understood as referring to the signless value of a number and in which any number is represented as a "positive" number for calculation purposes.

Next considering how the system would adapt to different types of drivers, the specification describes, for example in paragraphs [019] and [020], that the shift point characteristic lines are adapted according to the "type" or "behavior" of the driver driving the

vehicle. The specification also states that the "driver type" should be represented by a value from a valuation counter that reflects, for example, the driver gear changes, that is, the frequency and type of gear changes, which could be induced either by the driver directly or by the automatic transmission as a result of the driver's driving, and the output speed gradient or gradients. That is, the present specification describes that the type of driver that is driving a vehicle, meaning whether the driver is a "sporty" type, an "economical" type or a type somewhere in between, can be represented by and is indicated by the frequency, number and type of gear changes and the speed gradients. The information pertaining to gear shifts, in turn, reflects, for example, whether the vehicle is on a winding road or in city traffic and how hard and fast the driver is maneuvering around curves and corners. The information regarding speed gradients, of course, reflects whether the driver is prone to sudden and extreme accelerations away from stops and around corners and curves and quick stops or is prone to gentler, more economical driving habits.

These aspects of "driver type" are well known to those of ordinary skill in the arts and frequently appear in systems for, for example, adapting the control of automatic transmissions according to driver type. It is also well known and understood that such factors may be sensed from, for example, outputs of a transmission controller and an engine controller or as a throttle output, and that such factors may be converted into and represented by numeric values. For example, up and down gradients of output speed may be assigned values from one to ten, with one representing a low gradient of change in speed and ten representing the maximum possible acceleration or deceleration and, in a like manner, the changes in gear ratio may be assigned values according to the range and frequency of shifts, or interval between shifts. It will be further apparent to those of ordinary skill in the relevant arts that such numeric values may be accumulated in a "valuation counter" or "evaluation" counter, either as a cumulative number or more usefully as a running average, and the value representing the driver type may be used to adjust either the upshift engine speed points or the engine speed offsets to adapt the engine speed upshift points, that is, the "kick-down" points, in anticipation of actual events and according to the detected driver type. For example, in the case of a "sporty" driver, the engine speed offsets (nd-abkd) may be adjusted upwards in anticipation that, for this driver, the speed gradient at the upshift point will normally be relatively high.

Finally, considering how the characteristic line is, for example, multiplied by a factor to provide only positive values when one side of the characteristic line would provide positive values but the other would provide negative values, it is necessary to read paragraphs [019], [020], [028], [029] and [030] together as these paragraphs address related subject matter and essentially state that "driver type" is represent as a "positive" value or, more properly speaking in mathematical terms, as an absolute value number. The positive or negative signs of the driver type values and of other values used in adjusting the upshift points, such as output speed gradient as addressed in the calculation of the adjusted upshift points, are, likewise, treated as in absolute numbers, that is, as numbers having no sign and that as a consequence are represented only as positive values. This is a common and well known and understood method to those of ordinary skill in the relevant art as allowing calculations to be simplified by treating all values as positive numbers and by handling the signs of various numbers as a separate operation or in a manner separate from the calculation operations, such as by determining the sign of a final result by other factors, such as the direction of a gear shift or of a speed gradient, rather than by treating the numbers as "signed" values.

It is, therefore, the belief and position of the Applicant that the specification and drawings of the present application as originally filed meet all of the requirements and provisions of 35 U.S.C. § 112 in providing an enabling disclosure of the claimed subject matter, as do the claim recitations themselves. It is therefore also the Applicant's belief that new Fig. 3 is not in fact required to provide the support required under 35 U.S.C. § 112 or 37 CFR § 1.83(a), but offers this amendment to the drawings so that the drawings more explicitly correspond with each and every element of the invention as described in the specification.

The Applicant, therefore, respectfully requests that the Examiner reconsider and withdraw all objections to the drawings as not showing every featured of the invention specified in the claims, referring particularly to the limitations recited in claims 12-16, and all rejections of the claims, and in particular claims 12-16, under 35 U.S.C. § 112, second paragraph, as failing to comply with the enabling requirement.

Next, considering the Examiner's rejections of the claims, and in particular claims 9-16, under 35 U.S.C. § 112, second paragraph, for failure to particularly point out and claim the

invention, primarily because of certain informalities therein, the Applicant amended the claims herein above to address and overcome each of the stated grounds for rejection under 35 U.S.C. § 112. The Applicant therefore respectfully requests that the Examiner reconsider and withdraw all rejections of the claims under 35 U.S.C. § 112, second paragraph, and in particular claims 9-16, and allow the claims as amended herein above.

The Examiner then rejects certain of the claims over cited prior art under 35 U.S.C. § 102 and § 103 and under the judicially created doctrine of double patenting. The Applicant acknowledges and respectfully traverses the raised rejections in view of the following remarks.

First addressing the rejection of claims under the judicially created doctrine of double patenting, the present Application is by the same inventors as and is assigned to the same entity as U.S. Patent No. 6,773,373, which is the parent Application of the present divisional Application. The Applicant, therefore, elects to meet and overcome the rejection of claims under the judicially created doctrine of double patenting by submitting a Terminal Disclaimer in the present Application. The Applicant therefore respectfully requests that the Examiner reconsider and withdraw all rejections of the claims under the judicially created doctrine of double patenting, and the allowance of the claims accordingly.

Continuing to the rejections of claim 9-13 under 35 U.S.C. § 102 over Koenig '893, and first considering the present invention, the present invention is directed to a system and method for preventing an engine driving an automatic transmission from exceeding the maximum permissible engine speed while providing maximum engine efficiency by optimization of kick-down shifting speeds in the automatic transmission wherein the kick-down shifting speeds are adaptive to variations in vehicle load and road inclinations.

According to the present invention, the system detects a predetermined shifting speed, at which a gear shift, that is, a "kick-down" shift is to be initiated, and determines an output speed gradient ($ng-ab$) at that point in time and determines a corresponding speed offset ($nd-abkd$) that is a function of the output speed gradient ($ng-ab$), as illustrated in Fig. 2. The speed offset ($nd-abkd$) is then applied to modify the current upshift point speed, which is derived from a corresponding curve or value stored in the system.

As described in the specification of the present application, such as at paragraphs [007], [008], [009], [012], [015], [017], [018], [026], [027], [028], [029] and [030],

the output speed gradient (ng-ab) and thus the speed offset (nd-abkd) are determined from the output speed, rather than solely from the current throttle setting, and thus reflects a gradient in engine speed due to a number of factors. As described, these factors include not only the throttle setting, which may be constant when the output speed reaches the predetermined shifting speed, but also gradients in the output speed due to other causes, such as variations in the road inclination, such the direction of a road grade slope and the steepness of the road grade slope, and different vehicle loads. As a consequence, the speed offset (nd-abkd) value is also dependent upon such factors as the road inclination and vehicle load conditions, and as a consequence the upshift point speed is adapted to the road inclination and vehicle load conditions.

Considering the recitations of claim 9 as amended herein above in further detail, and noting that claims 10-13 and claims 14-17 are all directly or indirectly dependent from claim 9, and thereby incorporate all recitations and limitations of claim 9 by dependency therefrom., the recitations of claim 9 are directed to a method for optimizing a kick-down upshift point speed in a motor vehicle with an automatic transmission. As recited in claim 9, the method of the present invention includes the steps of determining, from an engine output speed gradient reflecting at least one of a load condition and a road inclination, a speed offset (nd-abkd) representative of a time interval required for the engine to reach a maximum engine output speed, and applying the speed offset (nd-abkd) as an adjustment to the upshift point speed.

Next considering the teachings of Koenig et al. '893, this reference discloses a method to optimize a kick down upshift operation of an automatic transmission by adapting the kick down shifting speed in such a manner that the engine speed cannot reach its governed maximum engine speed during the obligatory time delay between the shifting command and the real start of engine speed reduction, but will reach the governed maximum engine speed at about the time of the engine speed reduction due to the shift operation.

Koenig et al. '893, and in particular columns 7 and 8 of Koenig et al. '893 where the operation of the system appears to be perhaps most concisely and clearly described, describes the trigger speed (TRIGGER SPEED), that is, the engine speed at which the shift is initiated, as being equal to a desired shift engine speed (DESRPM) minus the product of the engine acceleration prior to the shift initiation (ACCEL) and an empherically determined and stored shift

delay time (DTME). Koenig et al. '893 then describes a shift time delay error (DELERR), that is, an error in determining the actual shift delay time, as being the difference between the peak shift speed (SHFTRPM), that is, the engine speed at which the shift actually occurs, and the desired engine shift speed (DESRPM), that is, the engine speed at which the shift would preferably occur, divided by the engine acceleration at the time the shift occurs (SHFTACC).

When a shift time delay error (DELERR) is determined in a shift operation, and if the shift time delay error (DELERR) exceeds an acceptable range, the Koenig et al. '893 system determines a corrected TRIGGER SPEED for a subsequent shift operation as a desired shift engine speed (DESRPM) minus the product of the engine acceleration prior to the shift initiation (ACCEL) and the sum of the stored shift delay time (DTME) and a adaptive delay time correction value (DADPT) that is determined from a table of stored correction values.

It must be noted with respect to the above description of Koenig et al. '893 that in each instance described in Koenig et al. '893, such as in the Abstract and at column 1, lines 54-63, and column 7, lines 13-23, the engine speed or acceleration referred to by Koenig et al. '893 is, in fact, the engine throttle input rather than actual engine output speed as indicated by, for example, the transmission or a transmission controller.

In summary, therefore, in the Koenig et al. '893 system the shift trigger speed is adapted or corrected according to an error value that represents the difference between the actual and desired engine speeds at which the shift occurs, as represented by the engine throttle input at the time the shift actually occurs, thereby adapting a point at which a subsequent shift operation is initiated so that the engine speed at which the shift actually occurs is approximately equal to the maximum engine speed.

The Koenig et al. '893 system therefore essentially waits until an error in the engine speed at the time of shift actually occurs and is detected before providing an appropriate correction to the shift trigger speed. That is, Koenig et al. '893 detects and corrects engine speed errors that have actually occurred, and corrects such errors only for subsequent "detent shift" operations, by which point the error between the desired and actual engine speeds at the time of the actual shift may be very significant and possibly damaging to the engine or transmission.

In addition, in the Koenig et al. '893 system all determinations of engine speed, engine speed error, and engine speed at time of shift or of shift initiation are based upon the engine throttle input, and not upon an actual output speed indicated, for example, by the transmission or a transmission controller.

As such, and while the operation of the Koenig et al. '893 system takes into account the actions of the driver regarding gear choices and a desired speed, the Koenig et al. '893 system does not recognize, account for or adapt to other influences on engine speed and shifting times. For example, and in particular, the Koenig et al. '893 system reflects only the speed desired by the driver and does not represent, in any way, or indicate engine or vehicle speed factors such as the speeding up of the engine or the vehicle speed when traveling downhill or the slowing down of engine or vehicle speed when traveling uphill or when heavily loaded. As such, the shift initiation point compensation provided by the Koenig et al. '893 system may be in serious error when compared to the actual engine or vehicle speed and can adapt for such factors only indirectly if at all.

It is, therefore, apparent that the present invention is fully and fundamentally distinguished over and from the teachings of Koenig et al. '893 because Koenig et al. '893 detects only the actual and desired engine speeds at which the shift occurs. That is, and in complete contrast from the present invention, Koenig et al. '893 does not detect a gradient in the engine or transmission output speeds. As a result, and as described by Koenig et al. '893, the Koenig et al. '893 system can detect errors in the actual shift speed as compared to the desired shift speed only after the errors have occurred, and can thereby correct only for future errors based upon past errors. In contrast, the system of the present invention, by detecting the gradient of the engine or transmission output speed, can predict a pending error or difference between the desired shifting speed and the maximum engine output speed and can thereby correct for any such errors before they occur.

It must also be noted that in further fundamental contrast from the system of the present invention, the Koenig et al. '893 system addresses only the differences between speed desired by the driver and the actual vehicle speed and does not represent, in any way, or indicate engine or vehicle speed factors such as the speeding up of the engine or the vehicle speed when traveling downhill or the slowing down of engine or vehicle speed when traveling uphill

or when heavily loaded. does not even consider the effects of road inclination or load effects. Stated another way, in complete contrast from the present invention, the Koenig et al. '893 system does not consider or address the effects of road inclination or vehicle load.

Koenig et al. '893 thereby does not teach or suggest under the requirement and provisions of either 35 U.S.C. § 102 or 35 U.S.C. § 103 the recitations of claim 9 and, for the reasons discussed above, it is the belief and position of the Applicant that the present invention as recited in the claim 9, as amended herein, is fully and patentably distinguished over and from the teachings of Koenig et al. '893 under the requirements and provisions of both 35 U.S.C. § 102 and 35 U.S.C. § 103, and that claims 10-13 and 14-17 are, likewise, patentably distinguished over and from Koenig et al. '893 under 35 U.S.C. § 102 and § 103 for the same reasons.

It is further the Applicant's belief and position that claims 9-17 are fully and patentably distinguished over and from the teachings and suggestions of Tinschert et al. '556, discussed below, for the same reasons, and that in a like manner claims 17-20 are fully and patentably distinguished over and from the teachings and suggestions of Koenig et al. '893 under 35 U.S.C. § 103 and § 102 for the same reasons.

For at least this reason, therefore, the Applicant respectfully requests that the Examiner reconsider and withdraw all rejections of the claim 9 and dependent claims 10-13 as amended herein under either or both of 35 U.S.C. § 102 or 35 U.S.C. § 103, and well as any potential rejection of claims 9-13 over Tinschert et al. '556, as discussed below, and allowance of the claims as amended herein above.

Lastly, the Examiner rejects claims 17-20 under 35 U.S.C. § 103 over Tinschert et al. '556 wherein claim 17 is the sole independent claim and claims 18-20 are dependent form claim 17 and thereby incorporate all recitations and limitations of claim 17.

Tinschert et al. '556 teaches a cyclic adaption of gear shift changing curves using a very complex correcting and adapting algorithm wherein a single basic gear change map is employed in all shifting strategies and the gear change points of the basic gear change map are corrected in a two-dimensional function space by using the specific algorithm taught by Tinschert et al. '556.

The Tinschert et al. '556 algorithm is based upon individually generating several correction values based upon two primary control variables and as functions of two variables relating to the driving conditions of the vehicle. These initial correction values are summed, using a peak value selection method, to determine an actual correction value for each of the two coordinate values defining a given gear change point and wherein the coordinate values defining each gear change point respectively indicate of the speed and torque levels of the selected gear change points of the gear change curves. The summed correction values are then used to determine a common correction value for adjacent gear-change points, and the common correction value is then used in common for all the gear change points and, in particular, to adapt the coordinate values for each gear change point.

The Examiner refers to Fig. 11 and the basis for holding that Tinschert et al. '556 determines an output speed gradient reflecting a road inclination and determines an offset speed ddkw that is dependent on the output speed gradient and such that the engine will reach a high engine output speed at an upshift point. The Examiner also states that while Tinschert et al. '556 does not explicitly teach using a maximum engine speed as the upshift point, it would be obvious to do so as this is merely determining an optimum working range.

The Applicant respectfully disagrees with the Examiner's interpretation of Tinschert et al. '556's teachings, for the following reasons.

First, Fig. 11 alone is deceptive of Tinschert et al. '556's teachings because it implies, as the Examiner notes, that the Tinschert et al. '556 system operates with are the upward slope being traversed by the vehicle and the vehicle speed as the input variables used to generate the correction factor. The Examiner has also apparently interpreted the upward slope variable and the speed variable as being determined from the engine output speed, as is done in the present invention

In fact, however, the input to the Tinschert et al. '556 algorithm that is illustrated in Fig. 11 is an input from a function that is labeled only as "Determination Of Upward Slope", and Tinschert et al. '556 explicitly states, in column 9, lines 28-31, that "The determination of the upward slope of the road is assumed to be universally known since it is sufficiently well known from the literature and does not form the subject matter of this patent application". Tinschert et al. '556 thereby not only has not teaching of determining a road slope as a gradient

of the output speed of the engine, as in the present invention, but actually has no teaching at all of how the “upward slope” is determined. For example, and given that, as discussed further below, Tinschert et al. '556 does not sense or employ the engine output speed as a variable in the algorithm and refers merely to “the upward slope of the road”, Tinschert et al. '556 could just as readily be referring to the use of an inclinometer to determine the road slope, as is not uncommon.

It is, therefore, the belief and position of the Applicant that Tinschert et al. '556 is completely lacking in any relevant teaching or suggestion of how to determine a road slope and that Tinschert et al. '556 explicitly does not teach or suggest determining road slope from a gradient of an engine output speed, as does the present invention. It must also be noted that other distinctions between the present invention, discussed in further detail in the following, further indicate that Tinschert et al. '556 does not use or even consider using engine output speed gradient for any purpose.

The Applicant further respectfully disagrees with the Examiner's interpretation of Tinschert et al. '556's teachings as regards whether Tinschert et al. '556 determines an “offset speed”. That is, and for example referring to column 6, lines 26-64, column 7, lines 4-15, column 9, lines 1-37, the variables operated with by Tinschert et al. '556 system and algorithm solely include the throttle-valve angle (DKW) and the gearbox output speed (nab) and the correction values generated by the system and algorithm include only various correction values ddkw to the throttle valve angle DKW. That is, the only variables or factors that Tinschert et al. '556 system and algorithm employ for any purpose are the throttle-valve angle and the gearbox output speed and Tinschert et al. '556 does not determine with a gradient of the engine or transmission output speed or an “offset speed” to correct the shift point of the transmission, but instead generates only a throttle-valve angle correction.

Since Tinschert et al. '556 considers only the throttle-valve angle and the instantaneous gearbox output speed and generates only a throttle-valve angle correction and has no use for and does not even mention a gradient of the engine or transmission output speed, one of ordinary skill in the arts would also conclude that Tinschert et al. '556 does not determine road slope from a gradient of the engine or transmission output speed.

In addition, and for the same reasons as discussed above, it must be noted that although the throttle-valve angle correction is determined for various upshift points, the throttle-valve angle correction is not applied to modify the upshift point, as in the present invention, but is instead used to modify the throttle-valve input to the engine.

Tinschert et al. '556, therefore, does not teach or suggest, under the requirements and provisions of either 35 U.S.C. § 102 or 35 U.S.C. § 103 the recitations of claim 17, and thereby of claims 18-20.

It is, therefore, the Applicant's belief and position that the present invention as recited in claims 17 and thereby in claims 18-20 are fully and patentably distinguished over and from the teachings and suggestions of Tinschert et al. '556 under 35 U.S.C. § 103 and § 102 because Tinschert et al. '556 does not teach or suggest either generating an offset speed to control an upshift point dependent upon a vehicle load or a road inclination and does not determine an offset speed as a function of a gradient in an engine output speed.

It is further the Applicant's belief and position that claim 17, and thereby claims 18-20, are fully and patentably distinguished over and from the teachings and suggestions of Koenig et al. '893 under 35 U.S.C. § 102 and § 103 for the same reasons, and that in a like manner claims 17-20 are fully and patentably distinguished over and from the teachings and suggestions of Tinschert et al. '556 under 35 U.S.C. § 103 and § 102 for the same reasons. The Applicant, therefore, respectfully requests that the Examiner reconsider and withdraw all rejection of the claims over Tinschert et al. '556 under 35 U.S.C. § 102 or § 103, and allow the claims as amended herein above.

If any further amendment to this application is believed necessary to advance prosecution and place this case in allowable form, the Examiner is courteously solicited to contact the undersigned representative of the Applicant to discuss the same.

In view of the above amendments and remarks, it is respectfully submitted that all of the raised rejection(s) should be withdrawn at this time. If the Examiner disagrees with the Applicant's view concerning the withdrawal of the outstanding rejection(s) or applicability of the Koenig '893 and Tinschert '556 references, the Applicant respectfully requests the Examiner to indicate the specific passage or passages, or the drawing or drawings, which contain the necessary teaching, suggestion and/or disclosure required by case law. As such teaching,

suggestion and/or disclosure is not present in the applied references, the raised rejection should be withdrawn at this time. Alternatively, if the Examiner is relying on his/her expertise in this field, the Applicant respectfully requests the Examiner to enter an affidavit substantiating the Examiner's position so that suitable contradictory evidence can be entered in this case by the Applicant.

In view of the foregoing, it is respectfully submitted that the raised rejection(s) should be withdrawn and this application is now placed in a condition for allowance. Action to that end, in the form of an early Notice of Allowance, is courteously solicited by the Applicant at this time.

The Applicant respectfully requests that any outstanding objection(s) or requirement(s), as to the form of this application, be held in abeyance until allowable subject matter is indicated for this case.

In the event that there are any fee deficiencies or additional fees are payable, please charge the same or credit any overpayment to our Deposit Account (Account No. 04-0213

Respectfully submitted,



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